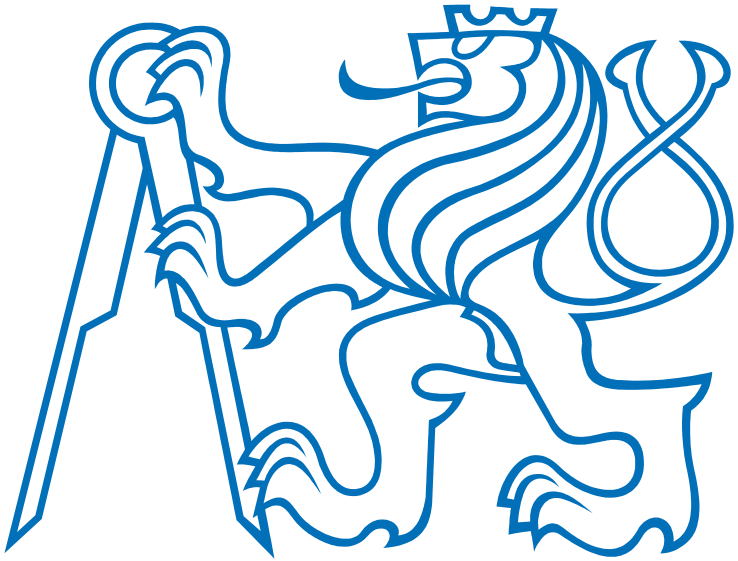

Czech Technical University in Prague
Central Library & Computing and Information Centre

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UNIVERSITY INSTITUTIONAL REPOSITORY AND ITS PLACE IN THE UNIVERSITY INFORMATION INFRASTRUCTURE

Outline

- CTU and its repository
- Place of the repository within university information system
  - technical and process solution of the interconnection of the repository with subsystems of the university IS
  - design of the optimized data flow and data management between the components
- Assessing the solution's benefits

Our background

- Czech Technical University in Prague (CTU)
  - the biggest and oldest technical university in the Czech Republic (since 1707)
  - 8 faculties, 5 specialized institutes
  - 28,000 active users in university system (22,000 students / 2,200 academic staff / 3,800 other staff)
- University repository
  - DSpace platform (open source solution, most common in CZ – large user community)
  - current version: 1.7 with Manakin user interface

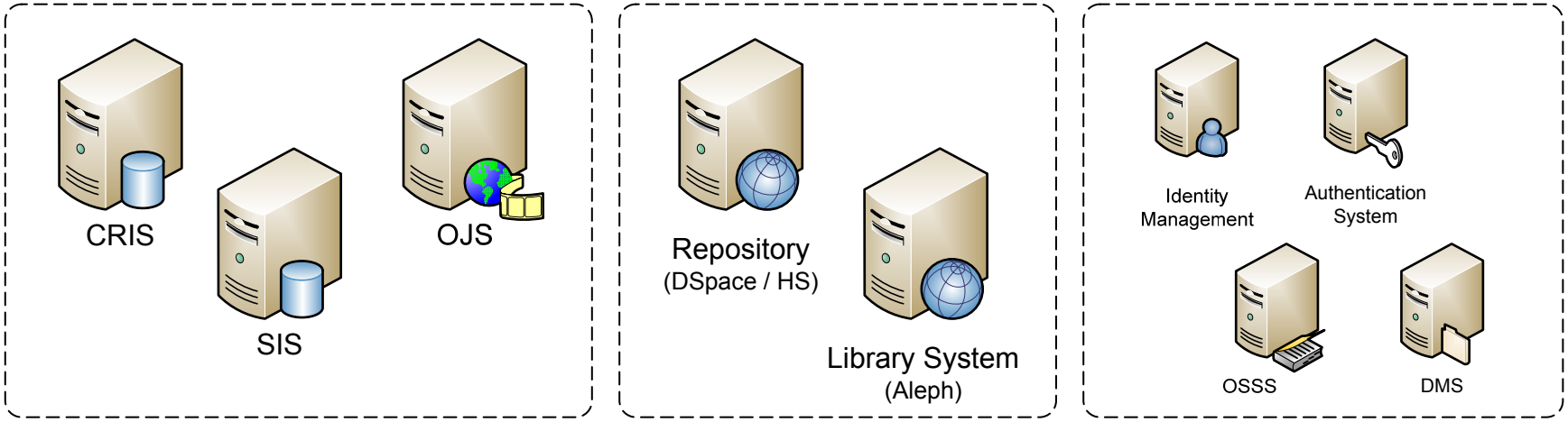
Phases of repository implementation

- 1st phase (“beginnings“)
  - legislative change regarding ETDs → repository launch in 2008 (DSpace 1.4)
  - workflow for ETDs (SIS to DSpace)
  - re-use of data from SIS, automated loading of university organizational structure (OSSS)
- 2nd phase (“foreseeing future”)
  - 2010 – workflow for research outputs (CRIS to DSpace)
  - current trends; connection to international infrastructures
  - 2014 – university demands the solution for research outputs (conditions of Horizon 2020) → we are ready
- 3rd phase (“adding value“)
  - 2013 – Open Journal Systems for university research journals (pilot with Acta Polytechnica
  - assigning DOI to university publications (library as a coordinator)

Subsystems of the university information system involved

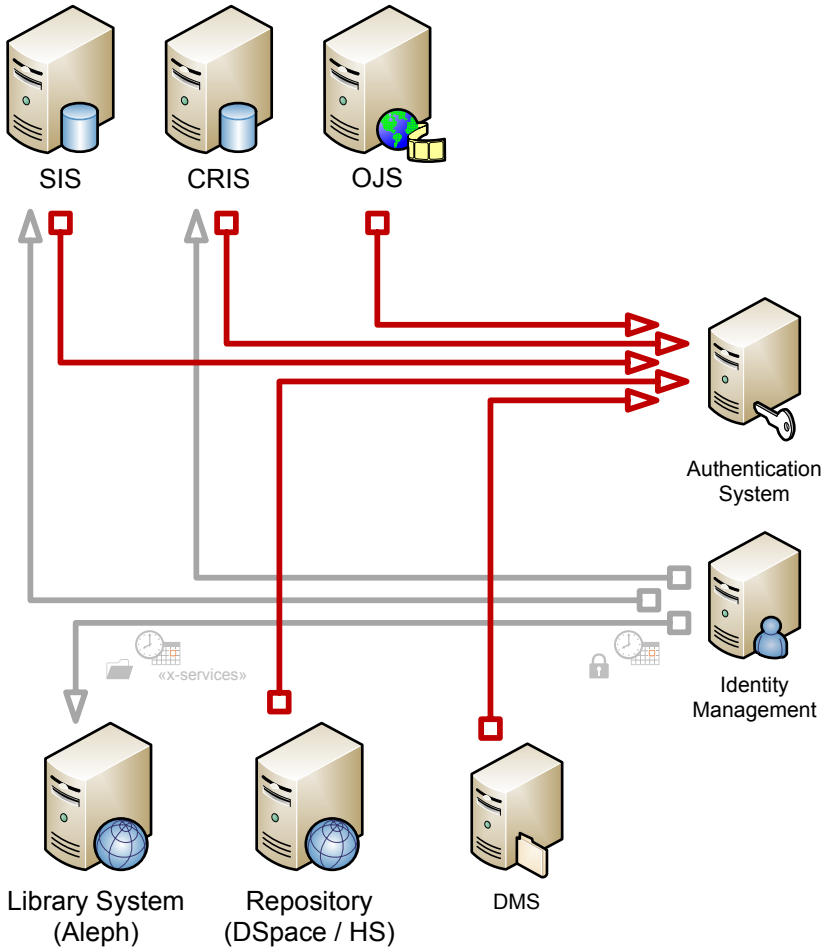
- Source systems
  - CRIS (Current Research IS): research outputs
  - SIS (Study Information System): Electronic Theses and Dissertations
  - OJS (Open Journal Systems): university journals / conference proceedings
- Supporting systems
  - AAI (Authentication and Authorization Infrastructure)
  - OSSS (Organizational Structure Source System)
  - DMS (Document Management System)
- Main target systems
  - Repository (DSpace; records and full texts from various subsystems)
  - Library System (Aleph; library entities' records, incl. ETDs' records, users' records)

Overview of main subsystems



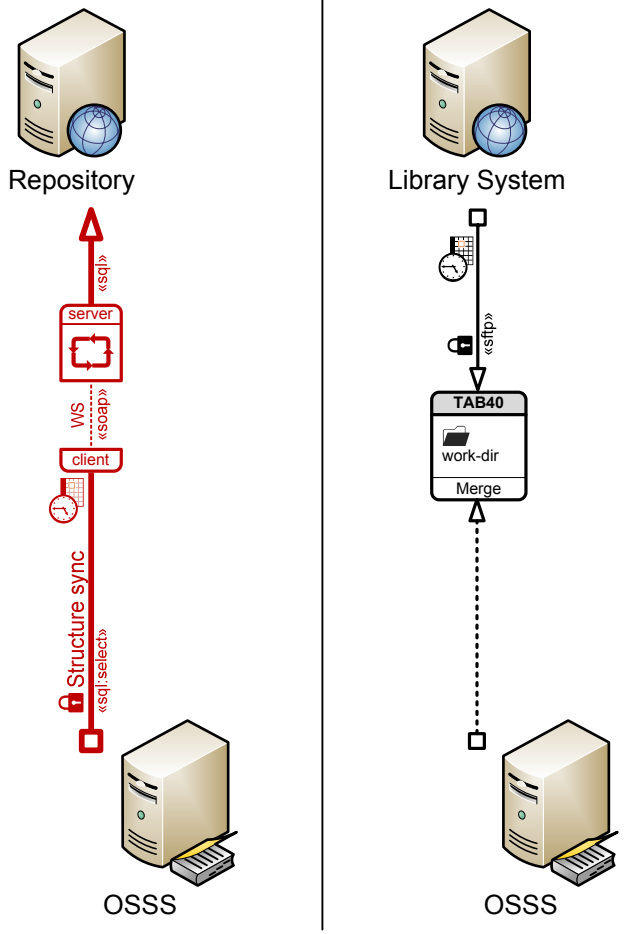
- **Source systems** – CRIS (Current Research IS): research outputs, SIS (Study Information System): Electronic Theses and Dissertations, OJS (Open Journal Systems): university journals / conference proceedings
- **Supporting systems** – AAI (Authentication and Authorization Infrastructure), OSSS (Organizational Structure Source System); DMS (Document Management System)
- **Main target systems** – Repository (DSpace; records and full texts from various subsystems), Library System (Aleph; library entities' records, incl. ETDs' records, users' records)

Identity management & Authentication



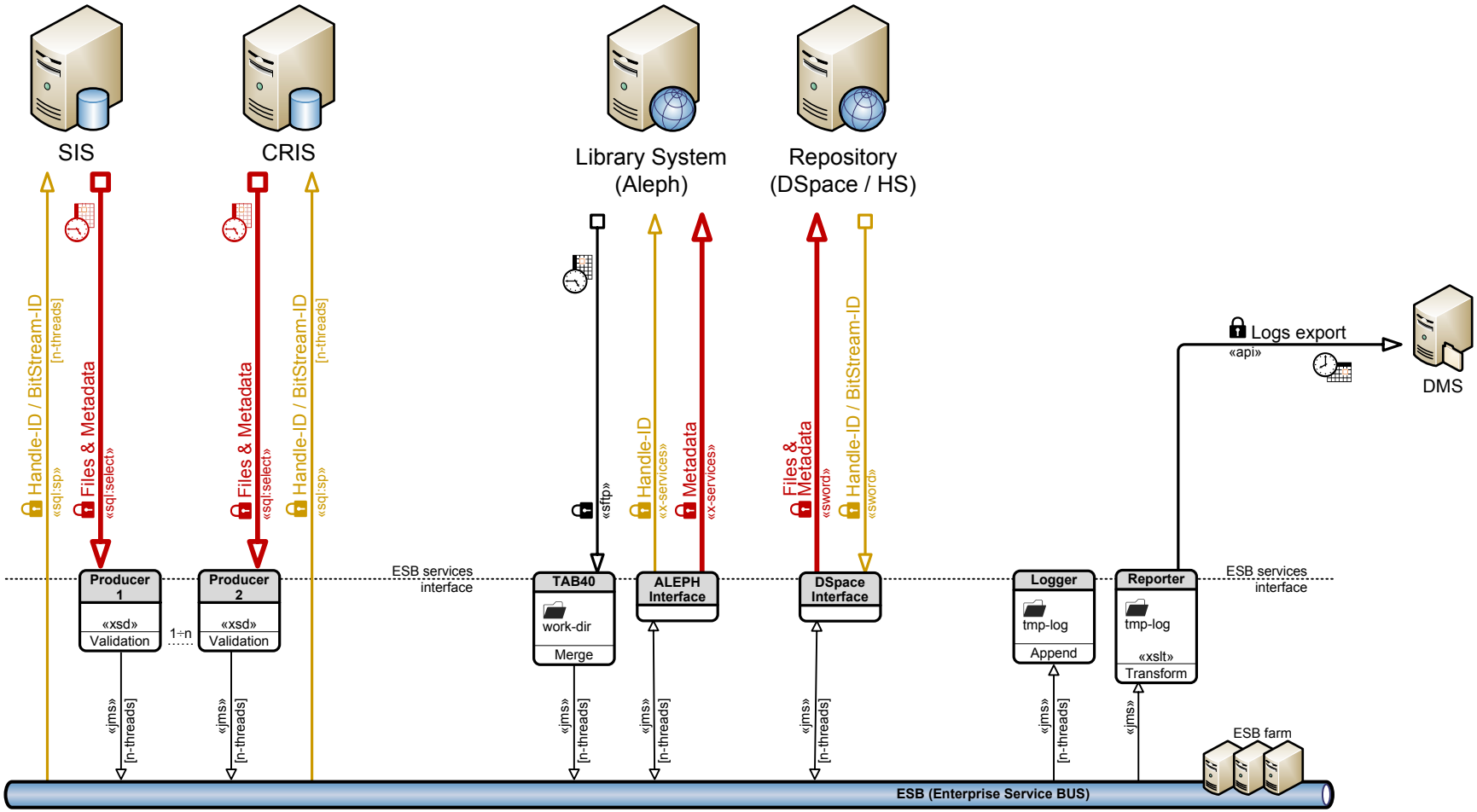
- Support unified
  - Identity management
  - Identification and authentication
- User identifiers
  - Personal number
  - UID

Organizational structure synchronizing

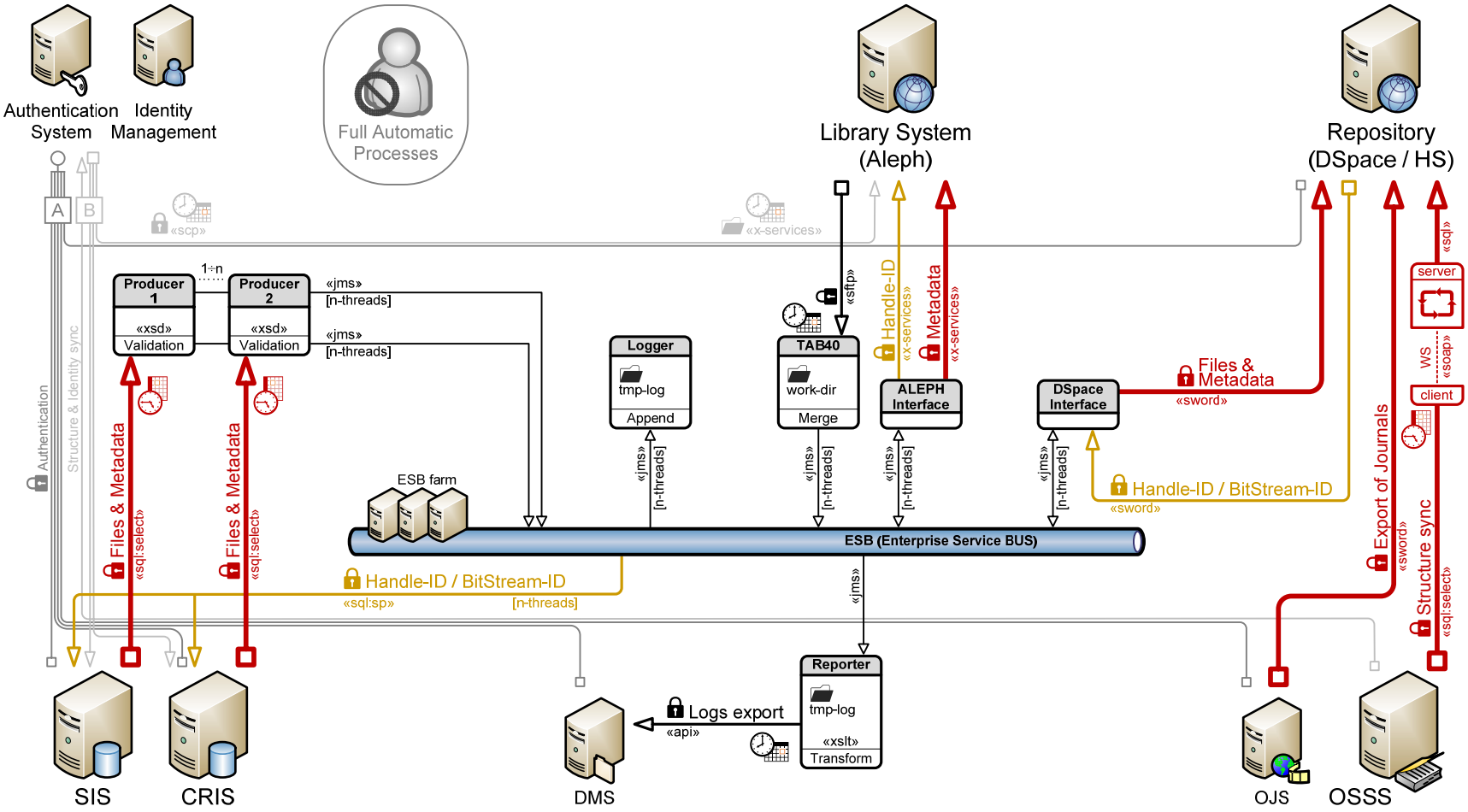


- Source – OSSS
- Automatic transfer to
  - Repository
  - Library system
- Problems with mapping
  - Deleting department
  - Splitting and joining of department

SIS & CRIS details



Summary of the whole solution



Final assessment and benefits of the solution

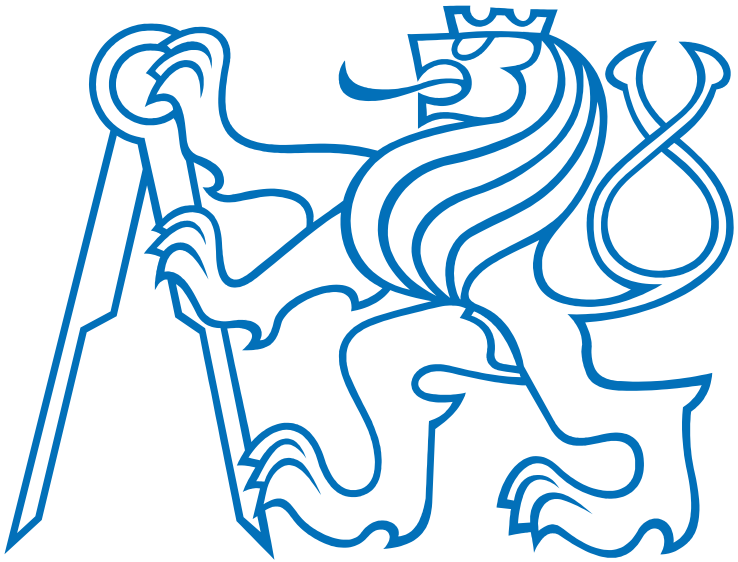
- Data reuse
  - student / researcher works with a familiar environment
  - data is inserted only once
- Automation of processes
  - e.g. automatically managed repository structure
- On-line solution
  - supporting manual, scheduled, full event data entry
- Scalability
- Expandability
  - simple connection / inclusion of another system

Current state & perspectives

- New RESTfull API of DSpace
  - Based on DSpace system RESTfull (Jersey)
  - Full writing operation (community, collection, items, bitstreams)
- Incremental update of organizational structure through ESB
- OJS change export mechanism similar to SIS/CRIS

Practical example

- Organizational structure synchronization
  - Example of full synchronization from scratch
  - Remote execution on university servers
- Steps
  - Pure installation of DSpace 4.0 (community-list)
  - Example of full synchronization (remote cmd)
  - Check the results (community-list)



QUESTIONS?

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THANK YOU FOR YOUR ATTENTION!